

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 4401 (2006): Textiles - Twisted Nylon Fish-Net Twines
[TXD 18: Textile Materials for Marine-Fishing Purposes]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



भारतीय मानक
वस्त्रादि — ऐंठित नाइलॉन की मत्स्य-जाल सुतली — विशिष्टि
(चौथा पुनरीक्षण)

Indian Standard
TEXTILES — TWISTED NYLON
FISH-NET TWINES — SPECIFICATION
(*Fourth Revision*)

ICS 677.494.675.072.63:677.076.732/.736:639.2.081.11

© BIS 2006

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

August 2006

Price Group 3

FOREWORD

This Indian Standard (Fourth Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Textile Materials for Marine/Fishing Purposes Sectional Committee had been approved by the Textile Division Council.

This standard was first published in 1967 and subsequently revised in 1976, 1981 and 1995. This revision has been taken up to modify the runnage and breaking load.

The composition of the Committee responsible for the preparation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TEXTILES — TWISTED NYLON FISH-NET TWINES — SPECIFICATION

(*Fourth Revision*)

1 SCOPE

This standard prescribes the constructional details and other particulars of undyed twisted nylon twines of the following two types used in the manufacture of fishing nets:

- a) *Type 1* — Gill net twines (GNT) used in the manufacture of gill nets, and
- b) *Type 2* — Trawl twine (TLT) used in the manufacture of trawl nets.

2 REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

<i>IS No.</i>	<i>Title</i>
1398 : 1982	Packing paper, waterproof, bitumen laminated (<i>second revision</i>)
5508 (Part 1) : 1969	Guide for fishing gear — General
5508 (Part 10) : 1972	Guide for fishing gear : Data sheet for seer gill net
5815 (Part 3) : 1970	Methods of test for fishing gear materials : Part 3 Determination of twist
5815 (Part 4) : 1993 ISO 1805 : 1973	Fishing nets — Determination of breaking load and knot breaking load of netting yarns (<i>first revision</i>)
5815 (Part 7) : 1993 ISO 3790 : 1976	Fishing nets — Determination of elongation of netting yarns (<i>first revision</i>)

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 5508 (Part 1) and IS 5508 (Part 10) shall apply.

4 MANUFACTURE

4.1 Yarn

Multifilament medium tenacity bright nylon yarn having a minimum tenacity of 0.57 N/tex (6.3 g/denier) shall be used in the manufacture of twines. The approximate count of yarn shall be 23 tex (210 d), 47 tex (420 d), 70 tex (630 d), 93 tex (840 d) or 140 tex (1 260 d), as indicated in Tables 1 and 2 subject to a tolerance of ± 4 percent. The number of filaments in the yarn shall be so chosen that the twines comply with the requirements of this standard.

4.2 Twine

The twine and its constituents shall be evenly and uniformly twisted together. The basic yarn used for making twine may have a nominal holding twist.

5 REQUIREMENTS

The gill net twines and trawl net twines shall comply with the construction details and other requirements specified in Tables 1 and 2 respectively.

6 MARKING

6.1 The hanks or cheeses containing twines shall be marked with the following information:

- a) Name of the material,
- b) Type and code number or runnage,
- c) Net mass,
- d) Month and year of manufacture, and
- e) Indication of source of manufacture.

6.2 BIS Certification Marking

The twines may also be marked with the Standard Mark.

6.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

7 PACKING

The twines shall be made into hanks or cheeses as required by the buyer. In case of hanks, a suitable number of hanks of mass agreed between the buyer and the seller shall be made into pack or bundle. A convenient number of cheeses or packs shall be placed one over the other and wrapped with a layer of waterproof packing material, such as waterproof packing paper (*see* IS 1398) or polyethylene film. These shall then be tied with twine of adequate strength and a suitable number shall be packed in a cardboard box or wooden packing case lined with one layer of waterproof packing paper. If necessary, the voids may be stuffed with cushioning material to avoid damage in transit. The cardboard box or wooden packing case shall have adequate strength to withstand normal hazard of transport and handling and shall be bound by box strapping.

8 SAMPLING

8.1 Lot

The quantity of netting twine of the same type and code number delivered to a buyer against one despatch note shall constitute a lot.

8.2 The conformity of a lot to the requirements of this standard shall be determined on the basis of tests carried out on the sample selected from it.

8.3 Unless otherwise agreed to between the buyer and the seller, the number of cheeses/packs to be selected from a lot shall be as given below:

<i>Lot Size</i>	<i>Sample Size</i>
Up to 100	3
101 to 300	4
301 to 500	5
501 to 1 000	7
1 001 and above	10

8.4 The cheeses or packs selected according to 8.3 shall be tested for length, breaking load and elongation at break in the case of both types of twines.

8.5 Criteria for Conformity

The lot shall be declared as conforming to the requirements of this standard, if the following conditions are satisfied:

- a) From the test results for length, and breaking load, the average (X) and the range (R) shall be determined and the value of expression $X - 0.4 R$ shall not fall below the maximum value specified.
- b) From the test results for elongation at break, the average (X) and the range (R) shall be determined and the value of expression $X + 0.4 R$ shall be less than the specified limit.

Table 1 Requirements of Nylon Twine for Gill Nets
(Clauses 4.1 and 5)

Code No.	Runnage m/kg	Construction Details	Turns/Metre ¹⁾		Breaking Load (N),		Elongation at Break Percent, Max
			Min		Min		
			Strand (4)	Twine (5)	Dry (6)	Wet (7)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1/2	20 215	23 tex × 1 × 2 (210 d × 1 × 2)	775	475	23	21	40
1	13 415	23 tex × 1 × 3 (210 d × 1 × 3)	775	385	36	32	40
1 ½	10 015	23 tex × 2 × 2 (210 d × 2 × 2)	600	385	48	42	40
2	6 675	23 tex × 2 × 3 (210 d × 2 × 3) 47 tex × 1 × 3 (420 d × 1 × 3)	600	290	70	56	40
3	4 450	23 tex × 3 × 3 (210 d × 3 × 3) 70 tex × 1 × 3 (630 d × 1 × 3)	500	270	105	83	40
4	3 340	23 tex × 4 × 3 (210 d × 4 × 3) 47 tex × 2 × 3 (420 d × 2 × 3) 93 tex × 1 × 3 (840 d × 1 × 3)	450	225	140	116	40
5	2 670	23 tex × 5 × 3 (210 d × 5 × 3)	450	225	175	139	40
6	2 225	23 tex × 6 × 3 (210 d × 6 × 3) 47 tex × 3 × 3 (420 d × 3 × 3) 70 tex × 2 × 3 (630 d × 2 × 3) 140 tex × 1 × 3 (1 260 d × 1 × 3)	450	225	210	168	40
7	1 910	23 tex × 7 × 3 (210 d × 7 × 3)	450	225	245	183	40
8	1 670	23 tex × 8 × 3 (210 d × 8 × 3) 47 tex × 4 × 3 (420 d × 4 × 3) 93 tex × 2 × 3 (840 d × 2 × 3)	450	225	280	224	40
9	1 485	23 tex × 9 × 3 (210 d × 9 × 3) 70 tex × 3 × 3 (630 d × 3 × 3)	360	180	314	251	40
12	1 115	23 tex × 12 × 3 (210 d × 12 × 3) 47 tex × 6 × 3 (420 d × 6 × 3) 70 tex × 4 × 3 (630 d × 4 × 3) 93 tex × 3 × 3 (840 d × 3 × 3) 140 tex × 2 × 3 (1 260 d × 2 × 3)	360	180	419	335	45
15	890	23 tex × 15 × 3 (210 d × 15 × 3) 70 tex × 5 × 3 (630 d × 5 × 3)	360	180	524	420	45
18	740	23 tex × 18 × 3 (210 d × 18 × 3) 47 tex × 9 × 3 (420 d × 9 × 3) 70 tex × 6 × 3 (630 d × 6 × 3) 140 tex × 3 × 3 (1 260 d × 3 × 3)	360	180	629	503	45
20	665	23 tex × 20 × 3 (210 d × 20 × 3) 47 tex × 10 × 3 (420 d × 10 × 3) 93 tex × 5 × 3 (840 d × 5 × 3)	300	150	699	560	45
24	555	23 tex × 24 × 3 (210 d × 24 × 3) 47 tex × 12 × 3 (420 d × 12 × 3) 70 tex × 8 × 3 (630 d × 8 × 3) 93 tex × 6 × 3 (840 d × 6 × 3) 140 tex × 4 × 3 (1 260 d × 4 × 3)	300	150	839	671	45
Method of Test			IS 5815 (Part 3)		IS 5815 (Part 4)		IS 5815 (Part 7)
¹⁾ For guidance only.							

Table 2 Requirements of Nylon Twine for Trawl Nets
(Clauses 4.1 and 5)

Code No.	Runnage m/kg	Construction Details	Turns/Metre ^{b)}		Breaking Load (N)		Elongation at Break Percent, Max
			Strand	Twine	Dry	Wet	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2	6 675	23 tex × 2 × 3 (210 d × 2 × 3)	870	490	70	56	40
		47 tex × 1 × 3 (420 d × 1 × 3)					
3	4 450	23 tex × 3 × 3 (210 d × 3 × 3)	720	395	105	83	40
		70 tex × 1 × 3 (630 d × 1 × 3)					
4	3 340	23 tex × 4 × 3 (210 d × 4 × 3)	630	360	140	116	40
		47 tex × 2 × 3 (420 d × 2 × 3)					
		93 tex × 1 × 3 (840 d × 1 × 3)					
5	2 670	23 tex × 5 × 3 (210 d × 5 × 3)	550	330	175	139	40
6	2 225	23 tex × 6 × 3 (210 d × 6 × 3)	510	285	210	168	40
		47 tex × 3 × 3 (420 d × 3 × 3)					
		70 tex × 2 × 3 (630 d × 2 × 3)					
		140 tex × 1 × 3 (1 260 d × 1 × 3)					
7	1 910	23 tex × 7 × 3 (210 d × 7 × 3)	475	265	245	183	40
8	1 670	23 tex × 8 × 3 (210 d × 8 × 3)	430	250	280	224	40
		47 tex × 4 × 3 (420 d × 4 × 3)					
		93 tex × 2 × 3 (840 d × 2 × 3)					
9	1 485	23 tex × 9 × 3 (210 d × 9 × 3)	420	230	314	251	40
		70 tex × 3 × 3 (630 d × 3 × 3)					
12	1 115	23 tex × 12 × 3 (210 d × 12 × 3)	365	200	419	335	45
		47 tex × 6 × 3 (420 d × 6 × 3)					
		70 tex × 4 × 3 (630 d × 4 × 3)					
		93 tex × 3 × 3 (840 d × 3 × 3)					
		140 tex × 2 × 3 (1 260 d × 2 × 3)					
15	890	23 tex × 15 × 3 (210 d × 15 × 3)	328	180	524	420	45
		70 tex × 5 × 3 (630 d × 5 × 3)					
18	740	23 tex × 18 × 3 (210 d × 18 × 3)	296	164	629	503	45
		47 tex × 9 × 3 (420 d × 9 × 3)					
		70 tex × 6 × 3 (630 d × 6 × 3)					
		140 tex × 3 × 3 (1 260 d × 3 × 3)					
20	665	23 tex × 20 × 3 (210 d × 20 × 3)	278	154	699	560	45
		47 tex × 10 × 3 (420 d × 10 × 3)					
		93 tex × 5 × 3 (840 d × 5 × 3)					
24	555	23 tex × 24 × 3 (210 d × 24 × 3)	260	140	839	671	45
		47 tex × 12 × 3 (420 d × 12 × 3)					
		70 tex × 8 × 3 (630 d × 8 × 3)					
		93 tex × 6 × 3 (840 d × 6 × 3)					
		140 tex × 4 × 3 (1 260 d × 4 × 3)					

Method of Test	IS 5815 (Part 3)	IS 5815 (Part 4)	IS 5815 (Part 7)
----------------	------------------	------------------	------------------

NOTE — Code numbers represented by whole numbers indicate the number of yarns per strand of 210 d. 3 ply nylon multifilament twines or their equivalents in other denier sizes.

^{b)} For guidance only.

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Textile Materials for Marine/Fishing Purposes Sectional Committee, TX 18

<i>Organization</i>	<i>Representative(s)</i>
Fisheries Development Commissioner, Ministry of Agriculture, New Delhi	SHRI M. K. R. NAIR (<i>Chairman</i>) SHRI R. S. SISODIA (<i>Alternate</i>)
Association of Indian Fishery Industries, New Delhi	SHRI T. RAGHUNATH REDDY DR C. BABU RAO (<i>Alternate</i>)
Central Institute of Fisheries, Nautical & Engineering Training, Ministry of Agriculture, Cochin	SHRI P. M. SALIM
Central Institute of Fisheries Technology, Cochin	DR B. MEENA KUMARI SHRIMATI SALLY N. THAMAS (<i>Alternate</i>)
Fisheries Survey of India, Mumbai	DR V. S. SOMVANSHI SHRI M. E. JOHN (<i>Alternate</i>)
Garware — Wall Ropes Ltd, Mumbai	SHRI R. M. TELANG SHRI S. V. RAUT (<i>Alternate</i>)
Indian Fishnet Manufacturers Association, Chennai	SHRI M. K. UNNI KRISHNAN
Integrated Fisheries Project, Kochi	DR P. P. PREMALATHA
Office of the Textile Commissioner, Mumbai	SHRI S. K. PATRA SHRI S. CHAKRABORTY (<i>Alternate</i>)
SRFP Limited, Chennai	SHRI N. SANTHAN SHRI R. RAGHVENDRA SAYEE (<i>Alternate</i>)
The Karnataka Fisheries Development Corporation Limited, Bangalore	MANAGING DIRECTOR
The Kerala State Cooperative Federation for Fisheries Development Ltd, Kochi	SHRI P. SURENDREN
The Marine Products Export Development Authority, Kochi	NOMINATION AWAITED
BIS Directorate General	SHRI M. S. VERMA, Director & Head (TXD) [Representing Director General (<i>Ex-officio</i>)]

Member Secretary
SHRI ANIL KUMAR
Joint Director (TXD), BIS

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

This Indian Standard has been developed from Doc : No. TX 18 (0786).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110 002
Telephones : 2323 01 31, 2323 33 75, 2323 94 02

Telegrams : Manaksanstha
(Common to all offices)

Regional Offices :

	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110 002	{ 2323 76 17 2323 38 41
Eastern : 1/14 C.I.T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700 054	{ 2337 84 99, 2337 85 61 2337 86 26, 2337 91 20
Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160 022	{ 260 38 43 260 92 85
Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600 113	{ 2254 12 16, 2254 14 42 2254 25 19, 2254 23 15
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400 093	{ 2832 92 95, 2832 78 58 2832 78 91, 2832 78 92

Branches : AHMEDABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD.
GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. LUCKNOW. NAGPUR.
NALAGARH. PATNA. PUNE. RAJKOT. THIRUVANANTHAPURAM. VISAKHAPATNAM.